Indiana Department of Education
SUPPORTING STUDENT SUCCESS

CLASSROOM INNOVATION IN MATHEMATICS GRANT 2010-11

OVERVIEW

Purpose: From 2005 to 2009, state scores in mathematics were stagnant, rising only one percentage point over the four-year span. At the state level, IDOE is currently exploring new, innovative classroom strategies that will help to push mathematics in Indiana forward. One such strategy is the integration of digital curriculum and technology into traditional teaching methodologies.

The purpose of the program is to provide a select number of LEAs with the opportunity to use digital mathematics curricula, technology-based instruction, and interactive white boards in lieu of traditional textbooks. This grant provides an opportunity for LEAs to pilot digital curriculum which can be readily aligned to changes in standards and to determine its effectiveness with their student populations and within their contexts. Following the grant, LEAs will either continue the use of digital curriculum through their textbook rental program or discontinue use of the digital curriculum and seek an alternative for curricular materials. Digital curriculum would need to utilize innovative strategies for instruction and represent a significant break from the traditional textbook-oriented instruction and be approved by the IDOE, but it would not serve as a standalone, online course that replaces the classroom teacher. In order to evaluate the effectiveness of these strategies, awards will be limited to schools that propose plans for either: 6th Grade, 7th Grade, 8th Grade, and/or Algebra I. The results of this pilot program will be used to evaluate the effectiveness of digital curriculum and provide data for schools that may look at adopting digital mathematics curricula in the future.

This grant program is funded through the David C. Ford Fund.

Application: Please fill out each part completely. For assistance, you may contact Zach Foughty at zfoughty@doe.in.gov or Phone: (317) 233-5019

I. GENERAL INFORMATION

1. Corp # 8625	**2. Corp Name** Smith-Green Community Schools	
3. Corp Address (Street, City, State, Zip) 222 West Tulley Churubusco, IN 46723		**4. Telephone** 260-693-2007
5. Contact Person's Name Nancy Becker	**6. Contact Person's Email Address** becker.nancy@sgcs.k12.in.us	
7. Contact Person's Address (Street, City, State, Zip) Administrative Center, 222 West Tulley, Churubusco, IN 46723		**8. Contact Person's Telephone** 260-693-2007
9. Superintendent's Name Steve Darnell	**10. Superintendent's Email Address** **darnell.steve@sgcs.k12.in.us**	
11. # of Schools Participating **1**	**12. # of Students Being Served** **120**	**13. # of Teachers Participating** **2 Algebra teachers/1 special education co-teacher=3**

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II. Project Abstract

Briefly describe the proposed project clearly and concisely using the space provided.

Churubusco Junior/Senior High School is requesting funding from the Classroom Innovation in Mathematics Grant in order to provide a more consistent, high interest curriculum for our students in Algebra I. The school currently has access to a multitude of technological devices such as interactive whiteboard and computer labs. However, the school has struggled to maximize the potential instructional advantages that the technology could provide the students. This grant would provide our school with the opportunity to purchase a digital curriculum for our students in order to engage them in a way that inspires them to learn and connect with the standards and technology simultaneously. The goal is to engage and push students forward in their learning of mathematical concepts in conjunction with a higher understanding of accessing technological advances.

Our school has seen inconsistent assessment scores over the last five years. The special education scores have not been adequate and End of Course Assessments (ECA) for Algebra I were inadequate. As a school with a full special education inclusion program, there is a great need for additional ways to differentiate instruction to meet individual needs. The digital curriculum of the Aleks program would allow our teachers to provide individual instruction to the students and meet them where they are in their skill sets. This would allow all students to move forward from their own starting points. It also allows the teachers to meet high achieving students at their own starting points and push them further than traditional teaching could allow. This type of curriculum could eventually help students complete math requirements at a rapid pace thus allowing more students to be enrolled in AP Math Courses as well as dual enrollment courses at one of our local colleges.

Churubusco will not adopt new textbooks in the 2010-2011 school year. The school is waiting for the new Core Curriculum Standards to be finalized. The digital curriculum would allow the school to adapt instruction and curriculum fluidly based on the changing requirements of the federal and state standards. The curriculum is necessary to better equip students for the changing world they will enter after secondary education. The school would greatly appreciate the funds provided by this grant in order to further advance our school and our students.

Please complete <u>one</u> grant narrative for your LEA which includes all schools. Narratives should be double spaced, 12pt Times New Roman font, and not to exceed 10 pages.

III. GRANT NARRATIVE

***Software Choice and Rationale*: Identify the digital content program you have selected. Describe how this program aligns with the purpose of the grant. Describe how this program will address the instructional needs of your students and teachers.**

Churubusco Junior/Senior High School would like to purchase the Aleks program with the funding from this grant to use for students in grades 8 to 10 enrolled in Algebra I. The Aleks program provides the students with digital curriculum and differentiates based on students' individual needs. The students are able to follow the curriculum, but the program will provide them with instruction based on the topics they are most ready to learn. It will also provide opportunities for vocabulary growth and reinforcement of previously learned knowledge. The students will have greater opportunities for success when compared to a classroom with less differentiation. The Aleks software will be significantly different than the traditional textbook approach. The digital format of the curriculum will be of higher interest to students who are growing up in a world filled with technology. The higher interest level, combined with the individual opportunities for success, will hopefully translate to increased learning and higher assessment scores. In addition to student success, the Aleks program will continue to put additional technology access into the classrooms. The students will need to be ready for a technology based world when they graduate from secondary education. The infusion of technology into classrooms will help the students' preparation for this technologically advanced world. When choosing a program, the school also wants to address the possibility of the curriculum needing to change over the years. Currently, the state of Indiana is revamping the core mathematics standards. The school needs to have a curriculum that has the ability to adapt with the changing times. The Aleks program can be aligned based on school and state requirements. The alignment can be changed as necessary based on changes in policies, laws, or educational initiatives.

The Aleks program will be used to address instructional needs the school has found in our students and teachers. Algebra I teachers need to have more consistent curriculum and instruction. The Aleks curriculum will provide a teacher-friendly format with model lesson plans. Additionally it will provide so much support in how to

use the software and staff aligned with Aleks has guaranteed consistent training and follow up for all teachers using this curriculum. There will be three staff members (two general education teachers of mathematics and one co-teacher of students with learning challenges) involved in the implementation of this software and each will be able to advance at their own pace in regards to knowledge and teaching style.

Although the growth model shows Churubusco to be a high growth/high achievement school, the assessment scores over the past several years have been extremely sporadic and inconsistent as the students move through the junior high grades to the high school level. One of the largest areas of concern has been the transition from the ISTEP assessments to the Algebra End of Course Assessments (ECA). For instance, the class of 2012 had 79% pass the ISTEP in 2005, 90% pass in 2006 and 81% pass in 2007. These scores are somewhat sporadic. However, it is more telling to look at the ECA assessment scores. The high ability students who took Algebra in eighth grade passed the Algebra ECA assessment with a rate of 78.6%. However, the "average" student who took Algebra in 2009 passed with a rate of 36%. Of the students who did not pass as eighth graders, none passed the retest as freshmen. In further studying the data, 90 students from the class of 2012 had taken the test. Combining the data shows that 53% of that class did not pass the Algebra ECA the first time they took it. This 47% passing rate is an enormous drop from their ISTEP scores. Research is clear that the better a student does in Algebra the more likely he will graduate from high school. There is a definite need for a consistent program that provides students an opportunity to connect with high interest, technology-based curriculum for Algebra I. The program needs to provide differentiation for the special education and struggling students and also curriculum that will prove to be engaging and challenging for students who have high abilities in math. Churubusco has a totally inclusive special education program, and differentiation must be provided to those students accessing the general curriculum. The school feels that Aleks can help meet these instructional needs and provide more success to students and teachers alike. By allowing a co-teacher who specializes in working with students who have learning challenges to work with the Algebra I teacher in select classrooms throughout the day, Churubusco Junior/Senior High will be able to adapt the Aleks curriculum effectively to reach all. This teacher can also provide time for the

Algebra I teacher to concentrate on assisting students who are able to proceed through the Aleks curriculum at a more rapid rate. Thus, Aleks should prove to be engaging for students, whether they struggle or need to be further challenged.

***Professional Development*: Describe the PD needs of your teacher for using interactive whiteboards and implementing digital curriculum and detail the specific plan for meeting those needs.**

If Churubusco Junior/Senior High School is awarded this grant, there will be professional development needs for our teachers and staff. Acuity testing is already used for grades 6 to 8 however Acuity Algebra would be new to the high school level. The Algebra I teacher, eighth grade Algebra I teacher and one special education teacher would need one day of Acuity Algebra training during the summer. These teachers along with the department chair would need approximately two days of professional development for training in the Aleks digital content program and one day of training for End of Course Assessments. Additionally, these three teachers and math chairman will visit Rochester High School to observe a math teacher who is already using Aleks. Since the school is already equipped with interactive whiteboards (Smart Boards), there will be no need for additional professional development to train teachers in that area. The professional development listed thus far would all need to take place in the summer of 2010. However, there would be a need throughout the school year for additional training with the Aleks representatives to address problems and questions as they arise. It is anticipated that the teachers working with the Aleks program may need one to two additional professional development days each semester during the 2010-2011 school year. In addition to those professional development days, Churubusco Junior/Senior High School already implements collaboration time one time a week for teachers. If the grant is awarded, the teachers involved in the programming would be able to schedule one time a week to discuss and problem solve with no additional funding needed to do so. Teachers involved in the implementation of the grant for grades 9-10 will work together daily and thus collaboration will be continuous. The District Math Coordinator, principal of the Junior/Senior High, and Math chairperson will meet once a month to determine if all professional development needs are being addressed effectively.

***Implementation Plan – Digital Content*: Describe your plan for monitoring the implementation of the digital content with fidelity to program guidelines.**

Churubusco Junior/Senior High School will have a monitoring system in place in order to implement the digital program with fidelity. There will be monthly walk-through observations from administrators such as the principal, assistant principal, director of special education, or technology director to oversee the program. The math chairperson will observe weekly and provide feedback to both Algebra teachers involved. The teachers involved will be provided additional collaboration time monthly to discuss their classroom plans and how they are implementing the program. The mathematics department chair teacher will be able to report that information to the administrators. The school will also be investigating and using the coaching provided by the Aleks representatives. There will be regular reports presented to the administration regarding student computer access time and assessment scores from the mathematics teachers involved. The District Math Coordinator and principal will report to the School Board once a semester on the success of this program.

***Implementation Plan – Interactive Whiteboards*: Outline your current inventory of interactive whiteboards, how you can realign current inventory to meet program goals of one interactive whiteboard per classroom mathematics teacher, and what funds you would apply for in order to address these gaps.**

Churubusco Junior/Senior High School has a vast inventory of interactive whiteboards. Each instructional mathematics classroom for grade 8 and Algebra has an interactive whiteboard. The Smart Boards by the Smart Ed Company are connected to the teacher's computer and a mounted projector for instructional purposes. There is no need to realign any inventory for the purpose of this grant and no funds will be needed to provide additional interactive whiteboards. Churubusco Junior/Senior High School is well-equipped to use the digital content programs immediately.

Implementation Plan – Online Assessments: **Describe each school's capacity and commitment to administer online ISTEP+ and ECA assessments, as well as Acuity Assessments, both with and without additional lab space that grant funds could provide. Describe how teachers will ensure that students are trained on how to properly complete online assessments.**

Churubusco Junior/Senior High School is completely committed to administering online ECA assessments as well as Acuity Algebra testing if this grant is awarded. Acuity assessments are already used in grades 6, 7 and 8 with regularity, so the addition of Algebra would not be an issue for the school's testing policies. Within the school, there are three computer labs that could be used for testing purposes. Acuity Algebra will be completed at least each 9 weeks throughout the year so teachers can assess how well students are grasping the concepts introduced and plan further instruction based on the diagnostic information that the Algebra Acuity assessment provides. Also, students will be trained on how to input complex mathematic information into the program during the school year as they work within the Aleks program. They will be well versed in their abilities to complete mathematics problems on a computer based assessment. The Director of Technology, school counselor, and principal will make sure that all training opportunities for students regarding ECA testing will be made available to them by insuring that the Algebra I and special education teacher involved in implementation of this grant are provided all of the training and information associated with ECAs.

Students will have access to computers to use frequently with this online curriculum. There is a plan to purchase netbooks to be used in the high school Algebra classroom. The 8th grade Algebra I class will be able to schedule the existing computer labs at least two to three times a week as they implement Aleks curriculum. For ECA online testing, computer labs will be used by all Algebra I students in grades 8 to 10 to ensure security for the testing. Netbooks will not be used for ECA testing purposes.

IV. BUDGET

See program overview for allowable costs. List each expenditure on a separate line.

Expenditures Budget
(Use a separate line for each expenditure, and add rows as needed)

Expenditure Description	Person Responsible	Cost per Unit	Number of Units	COST
Digital curriculum subscriptions (list vendor) ALEKS	Ehren Misner	$30.00	120	$3600.00
Professional development reimbursements	Austin Couch	$300.00	3	$900.00
Interactive whiteboard (list make and model number) (SB680, Smart Technolgies)	Ehren Misner	Already have these	0	0
Acuity Algebra set-up fee	Ehren Misner	Already have Acuity	0	0
Cost for Acuity Algebra administration (per student)	Ehren Misner	$8.75	120	$1050.00
Costs related to online assessment	Nancy Becker	0	0	0
			Total Funds Requested	$5550.00

LOCAL SHARE*

***This is not a requirement for the grant, but it will help us to determine the additional resources need at the local level.**

Expenditures Budget
(Use a separate line for each expenditure, and add rows as needed)

Expenditure Description	Person Responsible	Cost per Unit	Number of Units	COST
Professional Development	Austin Couch	$150.00	3	$450.00
Additional lab set up: Netbook for each HS student	Ehren Misner	$300.00	30	$9000.00
Additional Costs for Interactive Whiteboard (e.g. installation materials)	Ehren Misner	$3000.00	2	$6000.00
			Total Funds Requested	$15,450.00

V. ASSURANCES

By checking each box below, you agree to the following assurances:

- ✓ The LEA assures that Acuity online assessments will be administered to assess student growth during the grant period (e.g. Acuity Predictive or Pre/Post Test; the exact assessments will be determined by the DOE, but will not exceed 3 tests during the school year, excluding ISTEP+ and ECA).
- ✓ The LEA assures that, given favorable results on a statewide level, it will give serious consideration to sustained use of digital curricula in all schools in the LEA until the next textbook adoption cycle (2016-17 school year).
- ✓ The LEA assures that the selected digital curriculum will be implemented, with fidelity, as the core curriculum for all mathematics classrooms (6th Grade, 7th Grade, 8th Grade, and/or Algebra I) at each school that receives grant funds, for the duration of the school year. "With fidelity" implies that districts will take the steps necessary to implement the digital curriculum as outlined by the vendor.
- ✓ The LEA assures that teachers will be provided with professional development necessary to implement digital curriculum with fidelity. Professional development includes, but is not limited to, training on digital curriculum software, integrating interactive whiteboards into a standards-based classroom, and using Acuity assessments to guide instruction.
- ✓ The LEA assures that funds used for interactive whiteboards will remain in mathematics teacher classrooms for the duration of the program. Any realignment of current inventory for these purposes will also remain in effect for the duration.
- ✓ The LEA assures that all 7th and 8th grade students in Algebra I will take the Algebra ECA online.
- ✓ The LEA assures that all students will take the ISTEP+ online, unless the school can demonstrate an inability to test all students online.
- ✓ The LEA assures that all teachers that use digital curriculum will participate in an *anonymous* evaluation of the program to determine its ability to impact teaching methods.
- ✓ The LEA assures that classrooms in which digital curriculum is being used will be available for observation by certain members of the Department of Education, with reasonable notification, to provide for a qualitative analysis of program effectiveness.
- ✓ The LEA assures that all students will complete a survey regarding the effectiveness of the digital curriculum.
- ✓ The LEA assures that all hardware and software implementations will be put in place before the start of the 2010-11 school year and that professional development related to this program will begin before the start of the 2010-11 school year.
- ✓ The LEA agrees to keep such records and to provide such information to the State educational agency, as may be reasonably required for fiscal audit and program evaluation (consistent with the responsibilities of the State educational agency under this part).

VI. SIGNATURES

List the management team of this grant for each school. Each member of the management team should also sign below. Complete this sheet for *each* school that is included in the district's implementation plan.

School Name: Churubusco Junior /Senior High School Grade Levels: 8, 9-10 (Algebra only)

NAME	POSITION	Signature
1. Steve Darnell	Superintendent	
2. Ashley Slain	District Math Coordinator	
3. Nancy Becker	District Assessment Coordinator	
4. Austin Couch	Principal	
5. Nate Wright	Math Department Chair	